PHOTOGRAPHIC INTERPRETATION REPORT

LENINGRAD NORTHWEST PROBABLE LONG RANGE SAM LAUNCH COMPLEX USSR

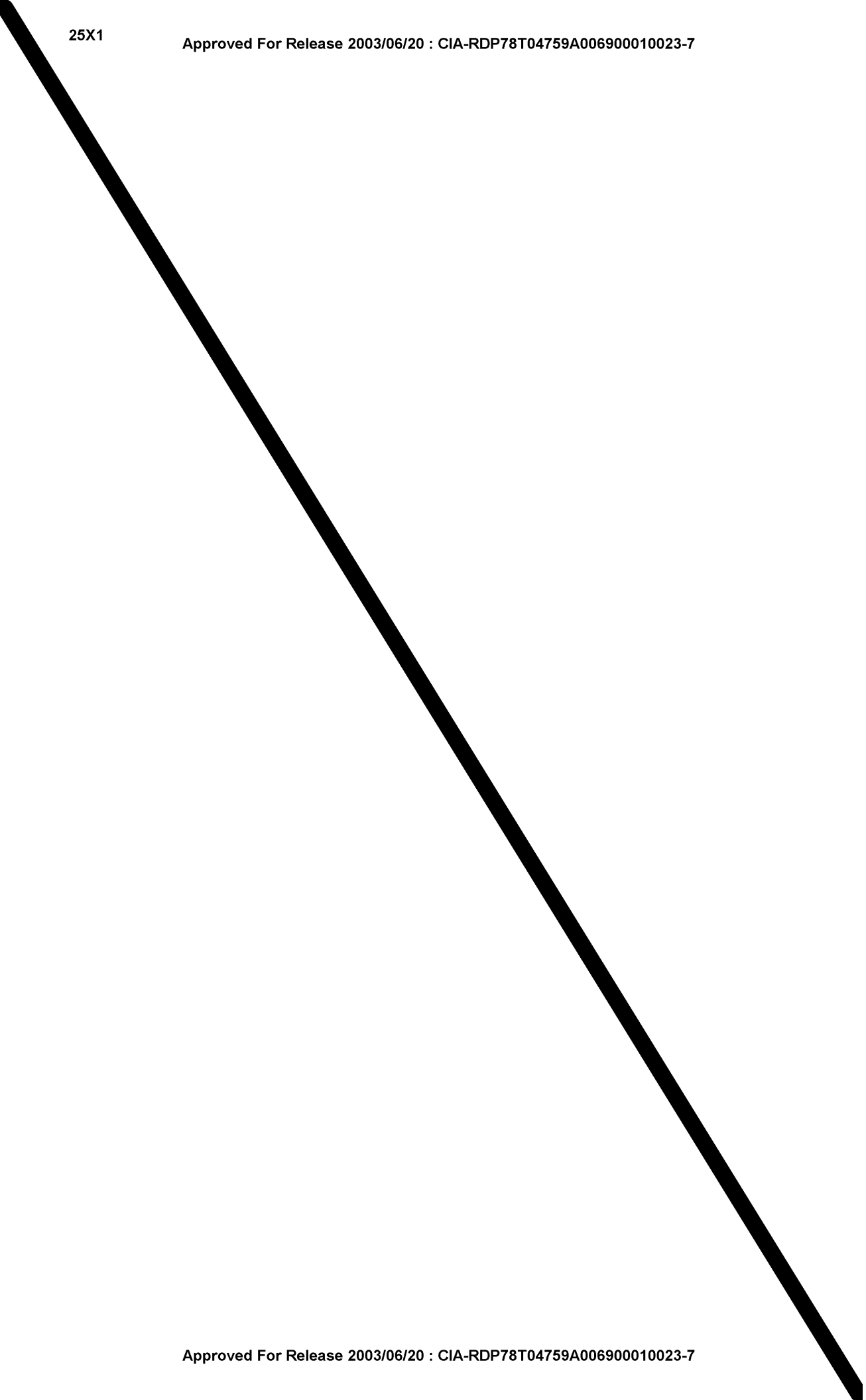
25X1

JULY 1967
COPY 116
20 PAGES

Declass Review by NIMA / DoD

25X1

GROUP 1: EXCLUDED FROM AUTOMATIC DOWNGRADING AND DECLASSIFICATION



PHOTOGRAPHIC INTERPRETATION REPORT

LENINGRAD NORTHWEST PROBABLE LONG RANGE SAM LAUNCH COMPLEX USSR

JULY 1967

NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

PREFACE

Presented herein are detailed line drawings, to scale, and related photography of facilities at the Northwest Probable Long Range SAM Launch Complex, Leningrad, USSR.

25X1D

The primary data base for this report was [redacted] photography [redacted] 25X1
25X1D [redacted] and reflects the construction status of facilities at the complex as of that date. This report will be updated at a later date, to show changes and additions as observed on subsequent photography.

The precision target plots included in this report are mathematically rectified projections of the area. Plots are compiled utilizing precision mensuration instruments, and image interpretation is performed with the aid of stereoscopic viewing equipment. Identifiable image points are measured and their coordinate values mathematically transformed by computer. This transformation corrects for camera and attitude (pitch, roll, and yaw) induced distortions, but does not correct for displacement due to ground relief.

These target plots represent the most accurate data compiled to date, but the user is cautioned to exercise care in scaling distances or determining azimuths from these plots, because relief can introduce errors in distance and alignment.

All mensuration utilized in the preparation of this report was accomplished by the Technical Analysis Branch, Technical Intelligence Division, NPIC. The horizontal and vertical measurements are computed values, as derived, and do not reflect numerical roundoff unless otherwise specified. The horizontal measurements are accurate to plus or minus 5 feet or 5 percent, whichever is greater. Vertical measurements are accurate to plus or minus 10 feet.

LENINGRAD NORTHWEST PROBABLE LONG RANGE SAM LAUNCH COMPLEX, USSR

The Leningrad Northwest Probable Long Range SAM (PLRS) Launch Complex is located at 60-27N 29-44E (Figure 1, inset) 37 nautical miles (nm) northwest of Leningrad.

This complex and the Leningrad Northeast and Southwest Complexes were previously designated by NPIC as "Probable Antimissile-Missile Launch Complexes" and as "AMM/SAM Launch Complexes."

Construction progress of facilities of the system for which the Leningrad complexes were originally intended was followed on KH-4 photography from the time they were first observed until construction of these facilities was halted

These facilities had their origin at Launch Complex A, Sary-Shagan Antimissile Test Center. Launch Sites 5 and 6, in conjunction with Electronic Site C at Sary-Shagan, are considered to be the prototypes for facilities originally under construction at the Leningrad complexes. An individual launch position includes a missile-ready building containing 5 bays, each with tracks providing missile transport service from the rear of and through the building and extending to serve the launch point. Electronic facilities originally under construction at the Leningrad complexes included a control center with conduits leading to elevated structures at outrigger positions, and to a radar position in the vicinity of the control center. These electronic facilities were in an early construction stage at the Leningrad Northeast Complex when work was halted.

Photography revealed what is now identified as a tracking/guidance facility (at probable long range SAM launch complexes) in a mid-stage of construction at the southeastern corner of the Leningrad Northwest Complex.

The complex was observed on photography from several missions Modification of the launch sites and the installation of rail-type launchers and engagement radars of the type now associated with the probable long range SAM launch complexes was underway during this period. Significant developments observed on photography during this time frame include: installation of launchers at launch points of positions at Sites C, D, and E; snow clearance between 2 bays of missile-ready buildings and the launch points; radar and associated vans/equipment at 3 positions and vans/equipment at the control center of the tracking/guidance facility; and 60 probable missile dollies located in the vehicle park Several launch positions of Sites C, D, and E were visible through scattered clouds on photography Snow-free coverage revealed a dark-toned wedge-shaped area extending from 2 end bays of each visible missile-ready building toward the launch point. Whether or not tracks/trackbeds serving the other 3 bays had been removed at that time is undetermined. Five tracks/trackbeds were still apparent serving each visible missile-ready building from the perimeter road. Aprons surrounding the launch points had been enlarged and surfaced Control centers at Launch Sites D and E had been earth covered during that time.

Cloud-free portions of photography revealed that the control center of Launch Site A had been earth covered although no significant change was discernible in the status of its launch positions. Twelve of the 60 probable missile dollies were removed from the vehicle park Sections of conduit were removed between the Complex Control Center and the elevated structure at the southwest outrigger position.

Conversion of facilities at the complex, to accommodate the probable long range SAM launch system, was well along when it was observed (Figure 1).

A rectified line drawing (Figure 2) is included to show, to scale, the relationship of facilities associated with the complex.

Significant changes and additions to the launch sites (Figures 3, 4, 5, 6, 7, 9) include: removal of 3 of the 5 tracks/trackbeds at many of the launch positions; installation

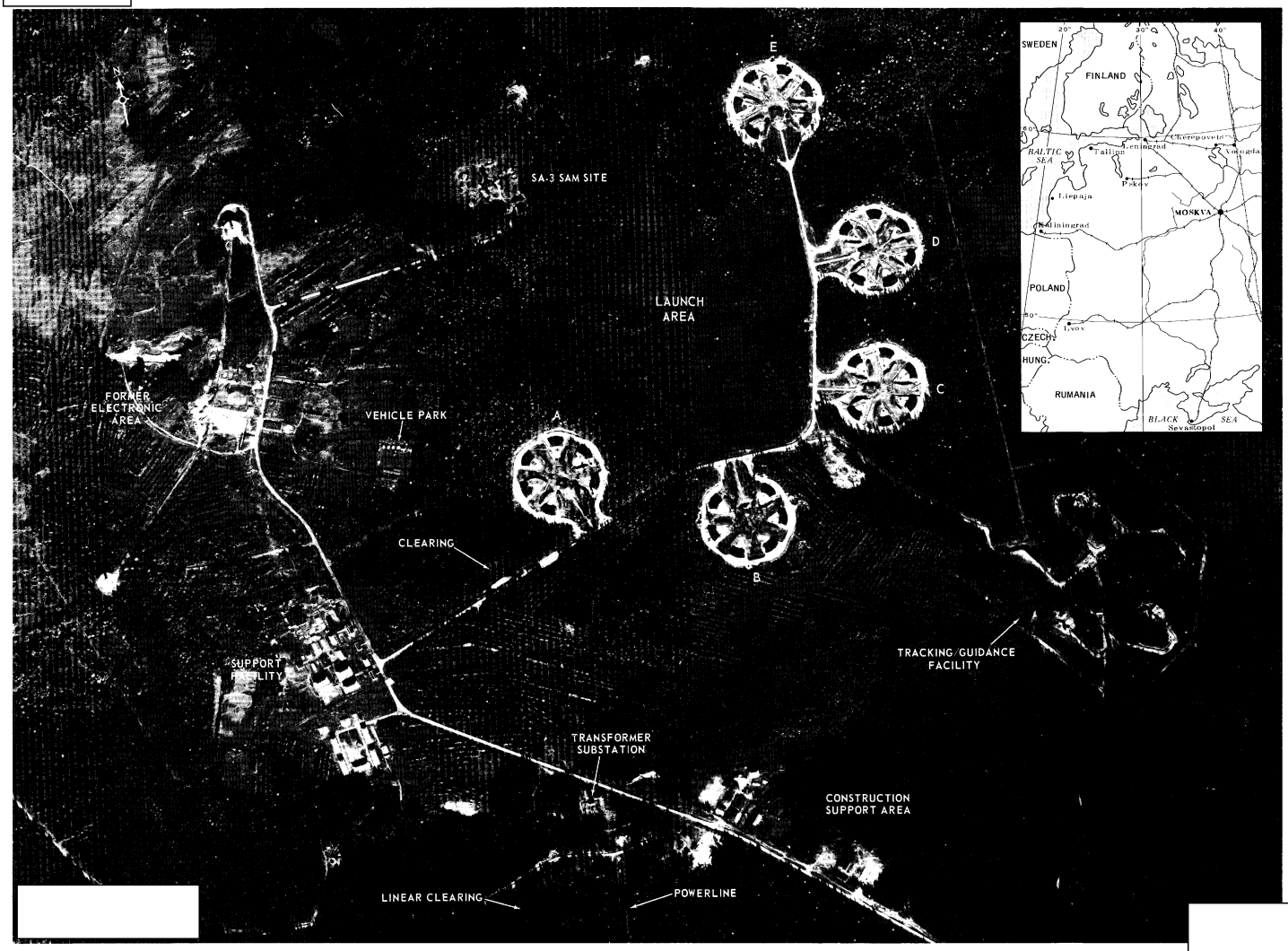
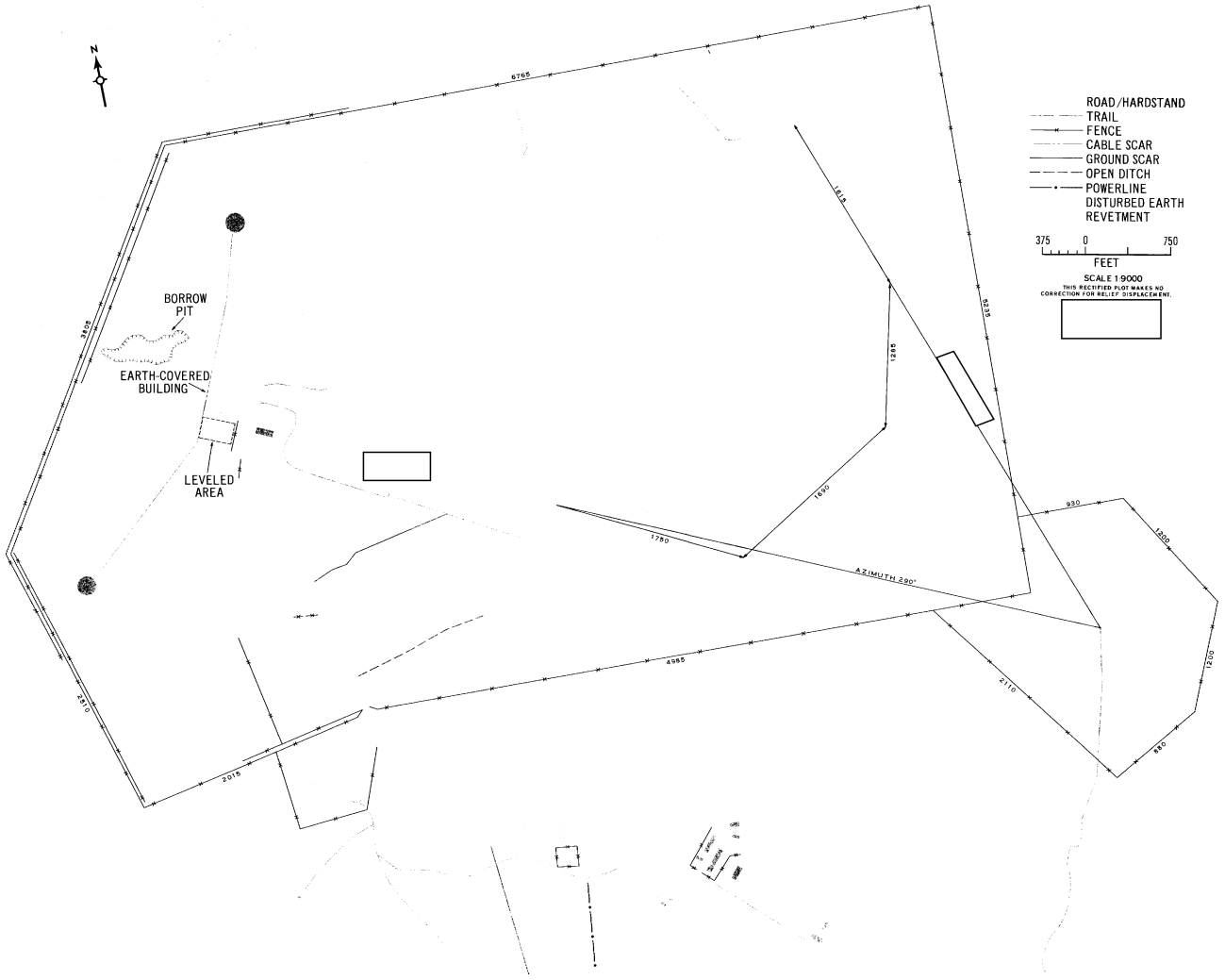


FIGURE 1. LENINGRAD NORTHWEST PROBABLE LONG RANGE SAM LAUNCH COMPLEX. Inset location map.



25X1

25X1D

ILLEGIB

FIGURE 2. RECTIFIED LINE DRAWING, LENINGRAD NORTHWEST PLRS LAUNCH COMPLEX.

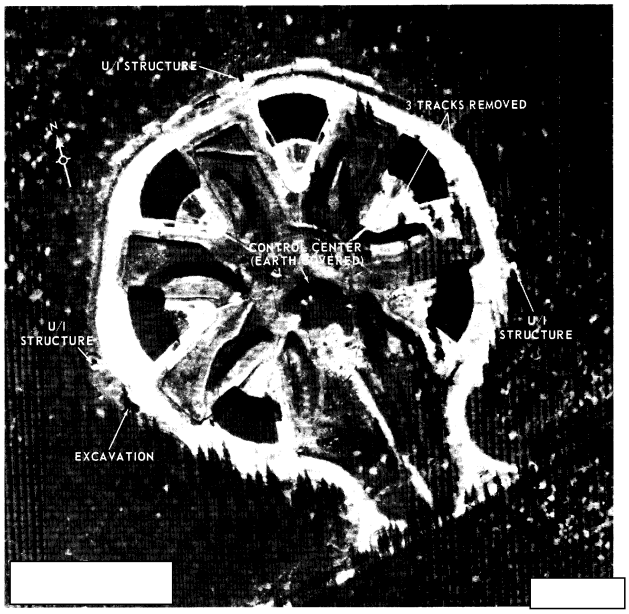


FIGURE 3. LAUNCH SITE A, LENINGRAD NORTHWEST PLRS LAUNCH COMPLEX.

of cables; construction of vertical cylindrical tanks in excavations along the outer edge of launch site perimeter roads; and additional launchers, a possible missile transporter, and vehicles/vans/equipment parked in the vicinity of missile-ready buildings at Launch Sites D and E.

Comparative photography [redacted] showing Launch Site D (Figure 6), is included to graphically portray changes and additions.

A rectified line drawing of Launch Site D (Figure 8) was selected as being representative of the 5 launch sites for presentation of mensuration of components and distances. Mensuration of a typical missile-ready building, and related distances, are shown in Figure 8, inset.

Launch Site A

This site was in an earlier stage of modification than the other 4 at the complex. Three of the 5 tracks/trackbeds had been removed from the outer apron serving the missile-ready building at each launch position and 3 serving the launch points from the buildings at Launch Positions 1, 5, and 6 had been removed. Launch point aprons were not yet surfaced. Previously observed cables from launch points to control center were partially earth covered or removed. Three small unidentified structures not discernible on [redacted] photography were located along the outer edge of the perimeter road. An excavation was newly observed outside the perimeter road between Positions 1 and 2. Most of the trees had been cleared from within the site.

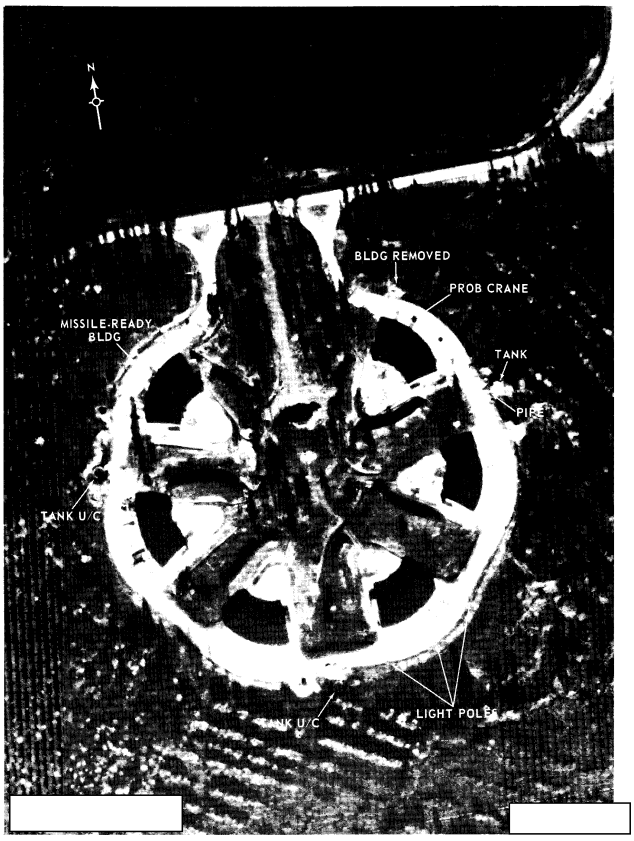
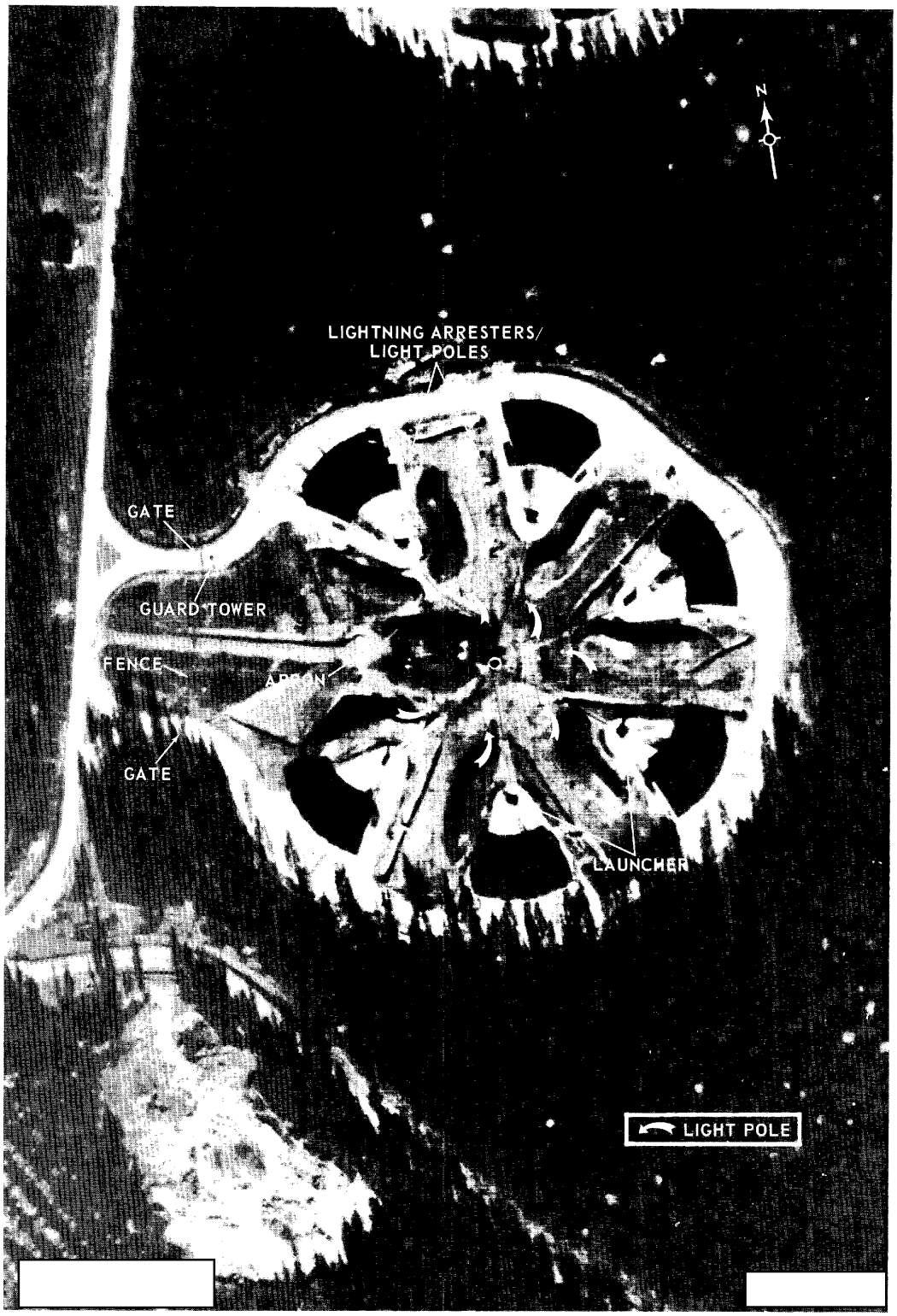


FIGURE 4. LAUNCH SITE B, LENINGRAD NORTHWEST PLRS LAUNCH COMPLEX.

Launch Site B

Three tracks/trackbeds had been removed from the outer service apron and, within each launch position, from 3 bays of the missile-ready buildings to the launch points. Surfacing of the launch point aprons was incomplete. Cable installation from the launch points to the central junction cylinder was incomplete. Three vertical cylindrical tanks, approximately [redacted] in diameter, were under construction in excavations along the outer edge of the perimeter road. The tank located along the road between Positions 1 and 2 was probably completed. A pipe extends from it toward the road. Most of the trees had been cleared from the site [redacted]



25X1D 25X1

FIGURE 5. LAUNCH SITE C, LENINGRAD NORTHWEST PLRS LAUNCH COMPLEX.

Launch Site C

A rail-type launcher was installed at the launch point of each position. Track removal was probably completed. Cables from each launch point to the conduit junction cylinder were installed. The site drainage ditching had been expanded since 25X1D
Trees had been cleared from the site. 25X1

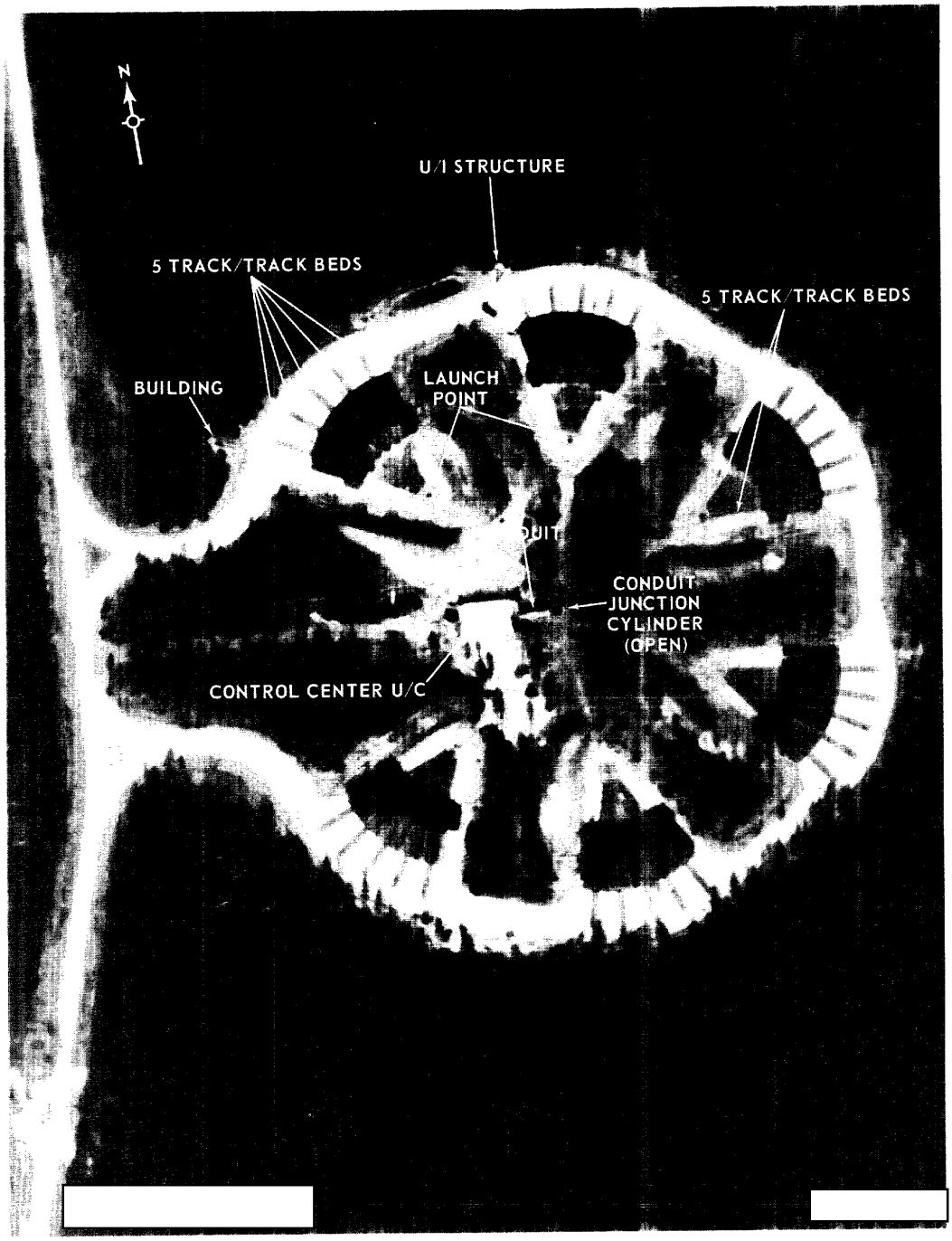
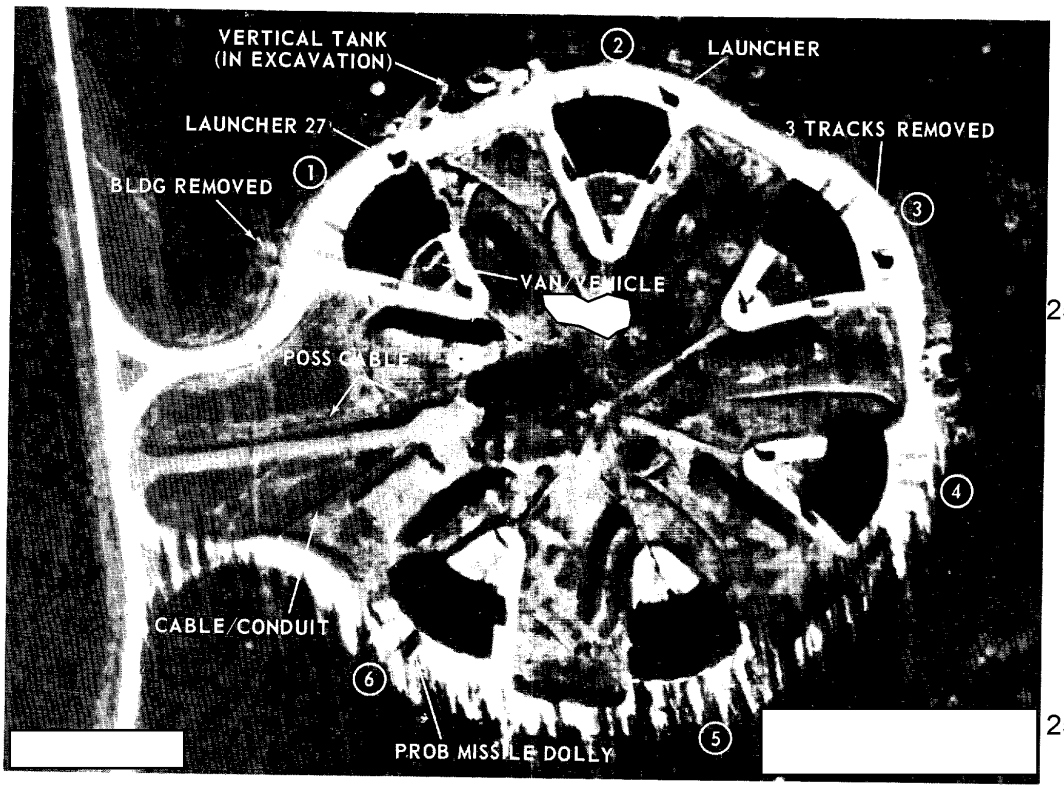


FIGURE 6. LAUNCH SITE D, LENINGRAD NORTHWEST PLRS LAUNCH COMPLEX.

Launch Site D

A launcher was installed at the launch point of each position. An additional launcher was parked on the perimeter road adjacent to the missile-ready buildings of Launch Positions 1, 2, 3, and 4 and probably at Positions 5 and 6. A probable missile dolly was parked on the outer apron at Launch Position 6. A [redacted] van/vehicle was parked in front of the missile-ready building at Position 1. Outer tracks/trackbeds had probably been removed at each position. Status of those serving the launch points was undetermined. A vertical cylindrical tank similar to those at Sites B and E was located along the perimeter road between Positions 1 and 2, and between Positions 3 and 4. Cables had been installed. Trees had been cleared from within the site.

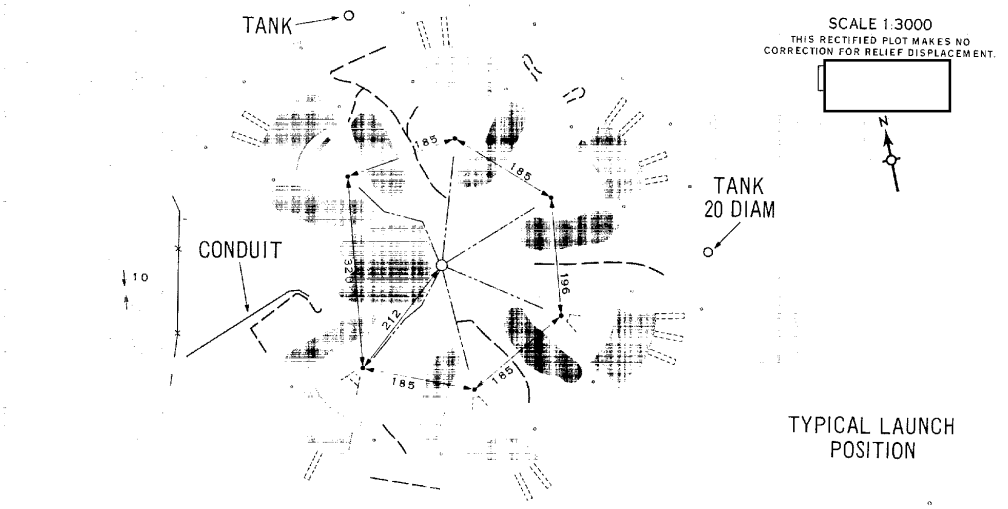


25X1D

25X1D

25X1

FIGURE 7. LAUNCH SITE D, LENINGRAD NORTHWEST PLRS LAUNCH COMPLEX.



25X1

25X1D

FIGURE 8. RECTIFIED LINE DRAWING, LAUNCH SITE D, LENINGRAD NORTHWEST PLRS LAUNCH COMPLEX. Inset, typical launch position.

25X1

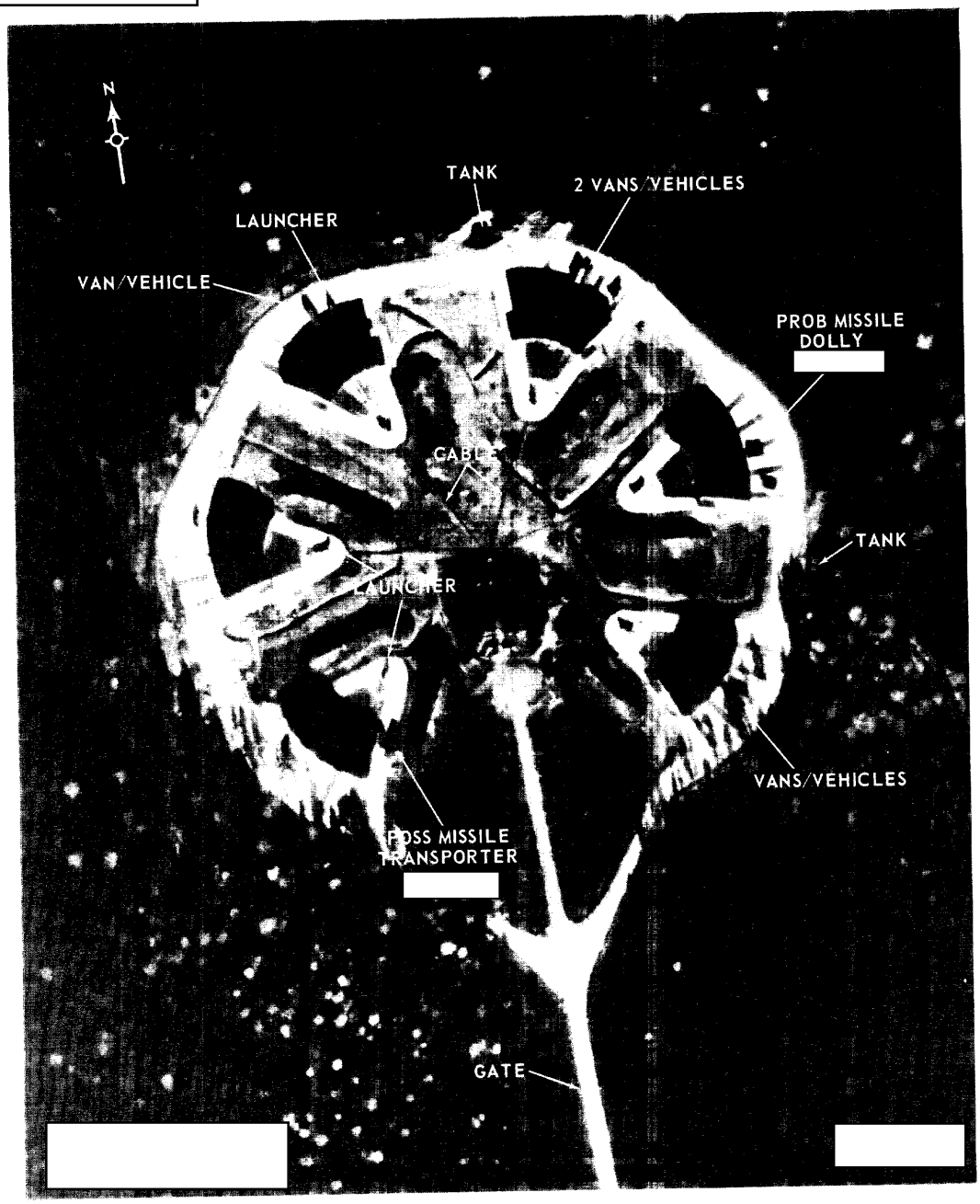


FIGURE 9. LAUNCH SITE E, LENINGRAD NORTHWEST PL RS LAUNCH COMPLEX.

Launch Site E

A launcher was installed at the launch point of each position. An additional launcher was parked on the perimeter road adjacent to each missile-ready building. One van/vehicle on the perimeter road at Position 3, and 2 vans/vehicles at Position 4, were partially obscured by building shadow. A probable missile dolly was parked adjacent to the missile-ready building at Position 5. Two vans/vehicles were partially obscured by tree shadow at Position 6. A [redacted] possible missile transporter was parked at the southern end of the missile-ready building at Position 1.

Outer tracks/trackbeds had been removed at Positions 1, 2, and 3. Status of those serving the launch points was undetermined. A tank similar to those at Launch Sites B and D had been constructed in an excavation on the outer edge of the perimeter road between Positions 3 and 4, and between Positions 5 and 6. Cables had been installed and trees cleared from within the site.

Tracking/Guidance Facility

The Tracking/Guidance Facility was in a late construction stage 25X1D
25X1 (Figure 10). facility was observed. Mensuration for the Tracking/Guidance Facility is shown in Figure 11.

The role of the previously designated Complex Control Center (partially earth mounded) (Figures 12, 13) in association with the probable long range SAM launch 25X1D system is undetermined. Additional sections of conduit between this structure and the elevated structures (Beer Cans) at the outrigger positions were removed
25X1D

A number of small support buildings and shelter-type structures were constructed in
25X1D the Support Facility (Figures 14, 15). At least 3 25X1D probable horizontal tanks are aligned in a row at the northeast corner of the Support Facility.

FIGURE 10. TRACKING/GUIDANCE FACILITY, LENINGRAD NORTHWEST PLRS LAUNCH COMPLEX.

Construction of the 5 radar mounds, their ramps, service roads, and the revetted control center probably was completed [redacted] An engagement radar was emplaced on the mound at Positions 1, 3, and 4. These same positions were first observed to be occupied in [redacted] Structures to provide concealment or shelter had been erected over the areas adjacent to the occupied radar mounds. Vans/equipment were parked at these locations in [redacted] drive-through revetted control center where vans/equipment were visible [redacted] A framework, to support the netting, extended from the flat U-shaped revetment wall on the southeastern side of the position to the lower linear wall on its opposite side. A disruptive pattern was applied to the surface of the radar mounds, ramps, and service roads in their vicinity. A possible calibration tower was located in a clearing approximately 1,900 feet southeast of the facility. Two probable cable traces extending toward the launch area could not be followed because of tree growth. Trees had not been cleared from within the facility.

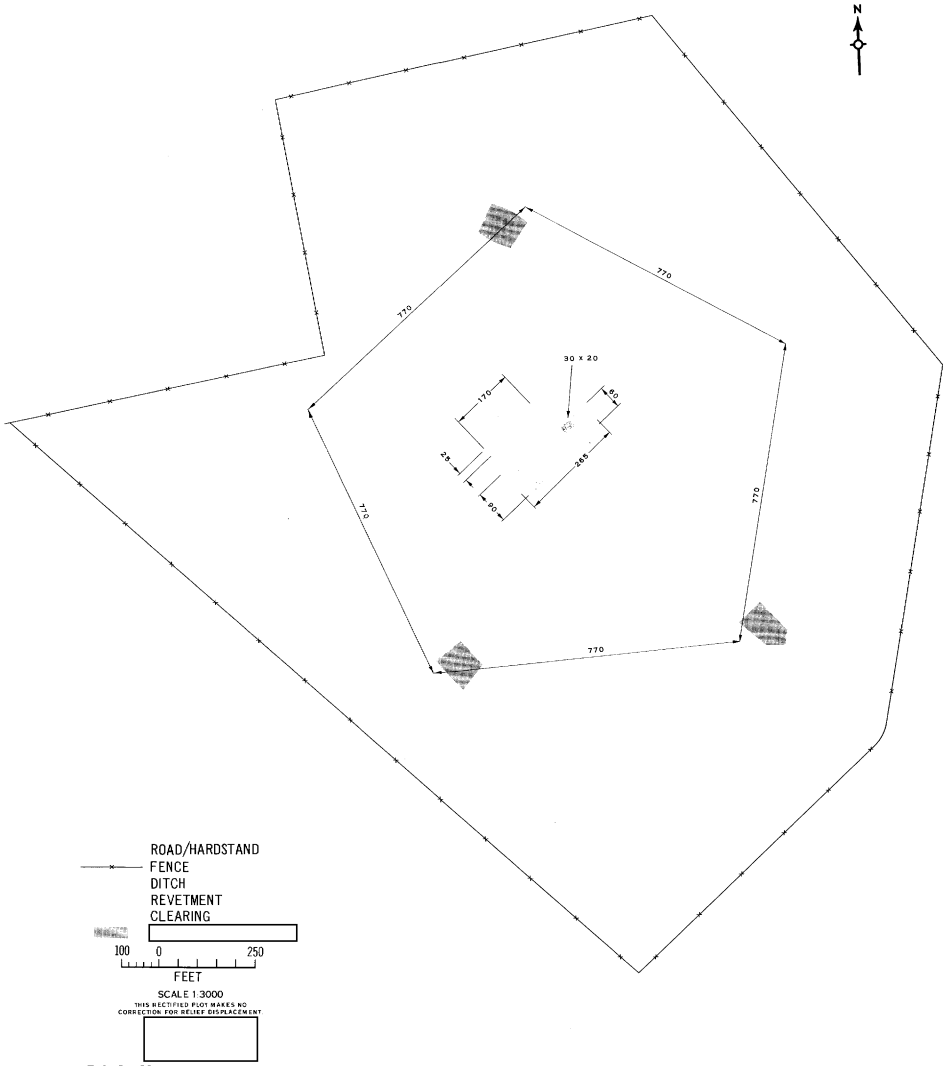


FIGURE 11. RECTIFIED DRAWING, TRACKING/GUIDANCE FACILITY, LENINGRAD NORTHWEST PLRS LAUNCH COMPLEX.

FIGURE 12. FORMER ELECTRONIC (BEER CAN) FACILITIES AND VEHICLE PARK.

Former Electronic (Beer Can) Facilities and Vehicle Park

Earth covering of the previously designated "Complex Control Center," first observed underway 25X1D was not fully accomplished. Purpose of the leveled area located along the southwest side of the structure is undetermined. Several sections of conduit extending to the structures at the outrigger positions were removed subsequent 25X1D No apparent change had occurred in the status of the elevated structures (Beer Cans) at the outrigger positions 25X1D

Twenty-three probable missile dollies are located in the vehicle park situated southeast of the former complex control center. 25X1

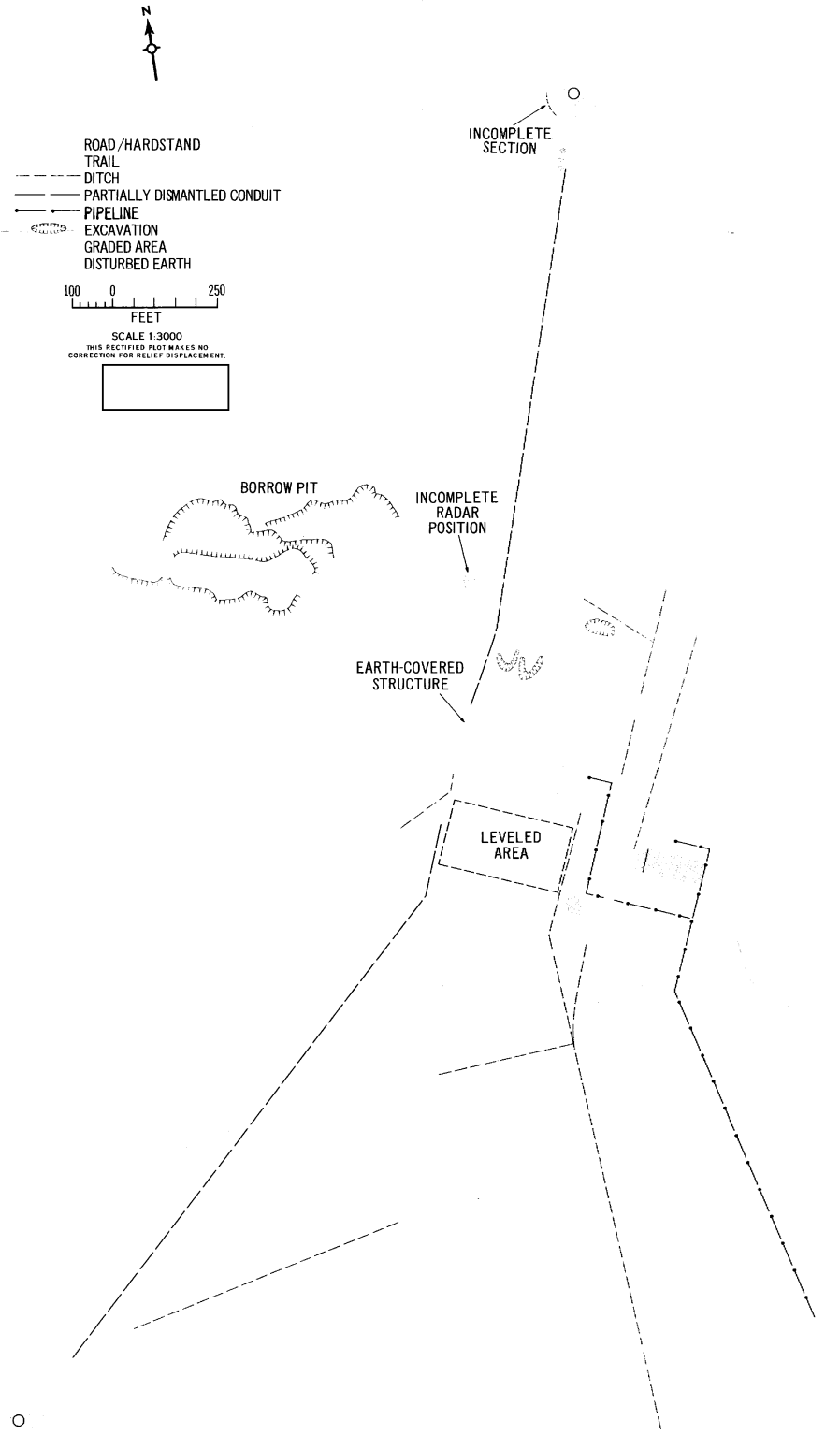


FIGURE 13. RECTIFIED LINE DRAWING, FORMER ELECTRONIC (BEER CAN) FACILITIES AND VEHICLE PARK.

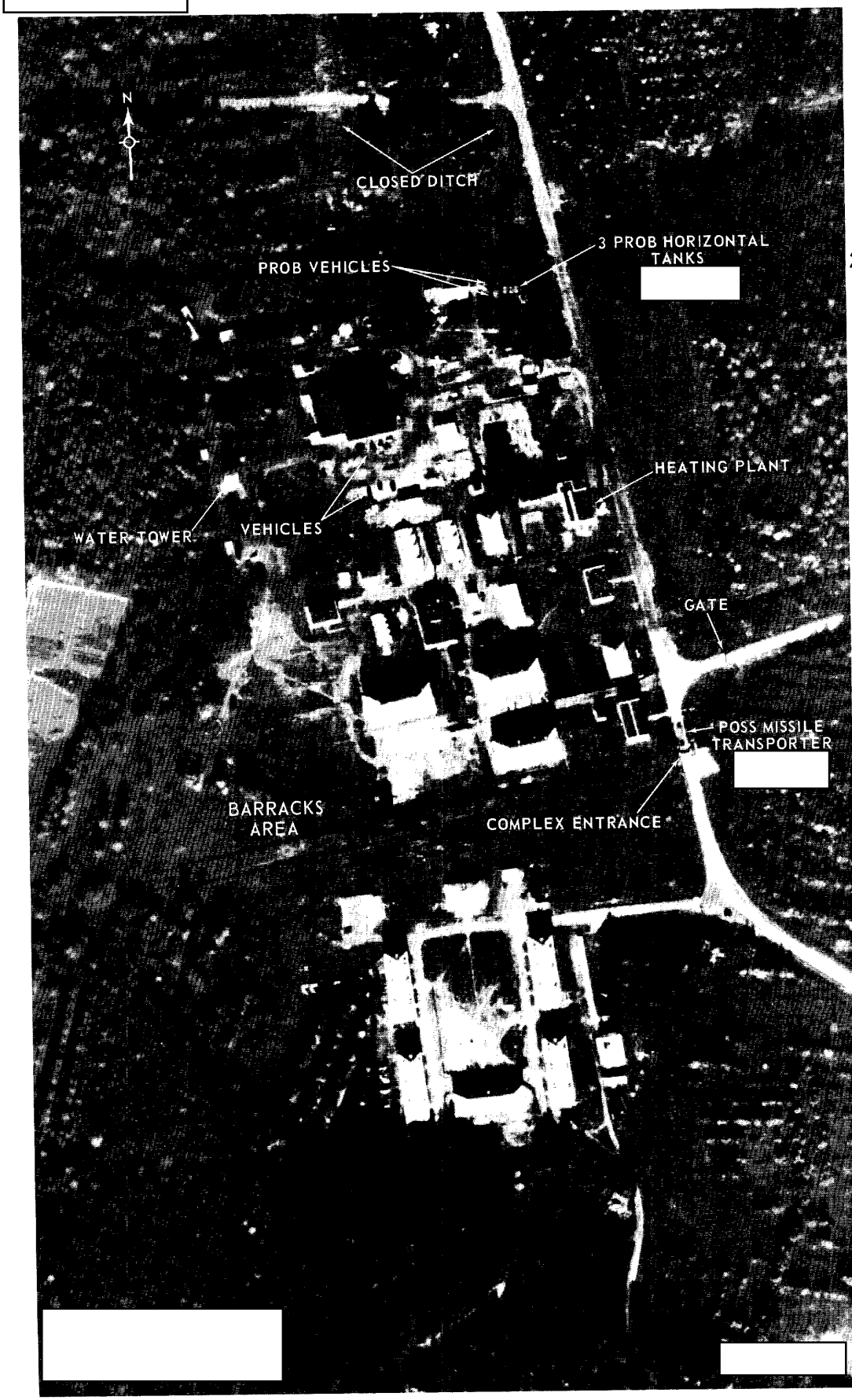


FIGURE 14. SUPPORT FACILITY, LENINGRAD NORTHWEST PLRS LAUNCH COMPLEX.

25X1

25X1D

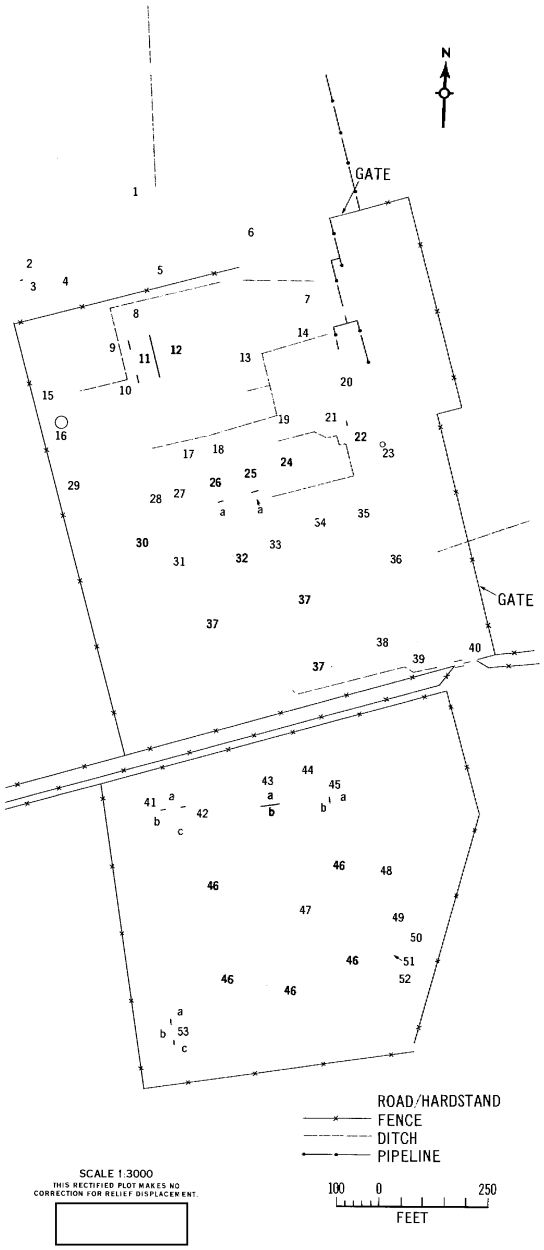
Support Facility

Seven small support buildings and 3 shelter-type structures were constructed in the Support Facility, some [redacted] Two shed-like appendages were attached to the west side of the largest building in the area. No new barracks or additional support buildings were constructed at the facility [redacted]

Three probable horizontal tanks are located in the northeastern corner of the facility. At least 10 additional tanks/vehicles, obscured by tree shadow, were located in the vicinity.

At least 12 vehicles/pieces of equipment were parked in the vicinity of the large building in the area.

A possible missile-transporter was parked near the complex entrance, on the eastern edge of the Support Facility.



ITEM	DESCRIPTION
1	U/I STRUCTURE
2	U/I SUPPORT BLDG
3	U/I SUPPORT BLDG
4*	PROB FLAT-ROOFED BLDG
5*	BLDG/SHELTER
6*	SHED-ROOFED OPEN SHELTER
7	SHELTER
8	U/I SUPPORT BLDG
9*	SHED-LIKE APPENDAGE TO BLDG #11
10*	SHED-LIKE APPENDAGE TO BLDG #11
11	EXTENSION TO BLDG #12
12	GABLE-ROOFED SUPPORT BLDG
13*	SHED-ROOFED OPEN SHELTER
14	SHED-ROOFED OPEN SHELTER
15*	U/I SUPPORT BLDG
16	STANDPIPE
17	U/I STRUCTURE
18	GABLE-ROOFED SUPPORT BLDG
19	U/I SUPPORT BLDG
20	GABLE-ROOFED SUPPORT BLDG
21	CONVEYER
22	HEATING PLANT
23	STACK
24	HIP-ROOFED SUPPORT BLDG
25	GABLE-ROOFED PROB STORAGE BLDG
a	
26	GABLE-ROOFED PROB STORAGE BLDG
a	
27	FLAT-ROOFED SUPPORT BLDG
28*	GABLE-ROOFED SUPPORT BLDG
29*	U/I SUPPORT BLDG
30	GABLE-ROOFED SUPPORT BLDG
31	PROB STORAGE BLDG
32	BI-LEVEL ROOF POSS MESS-HALL
33	GABLE-ROOFED SUPPORT BLDG
34	GABLE-ROOFED SUPPORT BLDG
35	FLAT-ROOFED SUPPORT BLDG
36	HIP-ROOFED SUPPORT BLDG
37	3 HIP-ROOFED PROB BARRACKS
38	FLAT-ROOFED SUPPORT BLDG
39	FLAT-ROOFED SUPPORT BLDG
40	PROB SECURITY BLDG
41	SHED-ROOFED OPEN SHELTER
a	
b	
c	
42	SHED-ROOFED OPEN SHELTER
43	HIP-ROOFED/DORMER PROB ADMIN BLDG
a	
b	
44	SHED-ROOFED OPEN SHELTER
45	U/I SUPPORT BLDG
a	
b	
46	5 HIP-ROOFED BARRACKS
47	U/I STRUCTURE
48	SHED-ROOFED OPEN SHELTER
49	SHED-ROOFED OPEN SHELTER
50	SHED-ROOFED OPEN SHELTER
51	SHED-ROOFED OPEN SHELTER
52	SHED-ROOFED OPEN SHELTER
53	SHED-ROOFED OPEN SHELTER
a	
b	
c	

DIMENSIONS (FT)

*DENOTES BUILDING/SHELTER NOT PRESEN

FIGURE 15. RECTIFIED LINE DRAWING, SUPPORT FACILITY, LENINGRAD NORTHWEST PLRS LAUNCH COMPLEX.

REFERENCES

PHOTOGRAPHY

25X1D [redacted]

MAPS OR CHARTS

ACIC. Series 200, scale 1:200,000

DOCUMENTS

1. NPIC. [redacted], *Northwest Probable Antimissile-Missile Launch Complex, Leningrad, USSR.* [redacted] Aug 64 (TOP SECRET [redacted]) 25X1 25X1

2. NPIC. [redacted] *Leningrad AMM SAM Launch Complexes, USSR, Changes and Additions* [redacted] Jun 65 (TOP SECRET [redacted]) 25X1 25X1D 25X1

REQUIREMENT

CIA. ORR. C-RR5-82,840

NPIC PROJECT

11178/67 (partial answer)